SP-R15 Recreation Suitability

October 25, 2002

1.0 Introduction/Background

This study will focus the suitability of new recreation facility development and potential new activities within the Study Area. Other recreation suitability studies will be reviewed and used as a basis for this study.

2.0 Study Objective

The objective of this study is to determine areas suitable for potential new recreation facility development in the Study Area consistent with the resource opportunities and constraints of the area. For facility development, two development objectives will be evaluated. One will emphasize the providing desired recreation experiences of visitors; the other will emphasize the protection of the project's unique resources. This study will include the shorelines of Study Area waterways.

3.0 Relationship to Relicensing/Need for the Study

This study is needed because Federal Energy Regulatory Commission (FERC) regulations require a comprehensive recreation plan. The study will identify if there are areas potentially suitable for new recreation development that may be used to meet the recreation needs of visitors to the Study Area. Identified areas should maintain the integrity of the resources and meet the long-term needs of the visitors. In addition, the suitability of the project shoreline for undeveloped dispersed use will also be assessed.

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses Issues RE 1, 2, 5-39, 53, 55, 56, 60, 61, 64-83, 85, 95, 96, 104, 105, 118-130, 132-145, 147, 150, and 151.

4.0 Study Area

The Study Area includes Lake Oroville, the lands and waters within and adjacent to (1/4 mile) the FERC project boundary, and adjacent lands, facilities, and areas with a clear nexus to the project. The following developed recreation areas and sites are within the Study Area:

Campgrounds

Bidwell Canyon Campground	Floating Campsites
Bloomer Cove Boat-In Campsite (BIC)	Lime Saddle Campground
Bloomer Knoll BIC	Lime Saddle Group Campground
Bloomer Point BIC	Loafer Creek Campground
Bloomer Group BIC	Loafer Creek Group Campground
Craig Saddle BIC	Loafer Creek Horse Campground

Foreman Creek BIC
Goat Ranch BIC
Oroville Wildlife Area (OWA) (Larkin Road Camping Area)
North Thermalito Forebay RV "en route" Campground

Day Use Areas (DUAs)

Lake Oroville Visitor Center
Lime Saddle DUA
Bidwell Canyon DUA
Loafer Creek DUA
Oroville Dam Overlook Area
Spillway DUA
Saddle Dam DUA
North Thermalito Forebay DUA
South Thermalito Forebay DUA
Thermalito Afterbay DUA (off Highway 162)
Thermalito Afterbay Wilbur Road DUA
Thermalito Afterbay Larkin Road DUA
Burma Road and Lakeland Boulevard DUA

Boat Launches

Lime Saddle Boat Launch Area (BLA)
Loafer Creek BLA
Bidwell Canyon BLA
Enterprise Boat Launch Ramp (BLR)
Nelson Bar Car-Top BLR
South Thermalito Forebay
Diversion Pool-Burma Road and RR Grade
Foreman Creek Car-Top BLR
Dark Canyon Car-Top BLR
Stringtown Car-Top BLR
Vinton Gulch Car-Top BLR
Thermalito Afterbay (4)
North Thermalito Forebay

Other Recreational Facilities with Project Nexus

Lime Saddle Marina
Floating Restrooms
Brad P. Freeman Trail
Lake Oroville State Recreation Area (LOSRA) Hiking/Equestrian Trail
Diversion Pool
Bidwell Marina
Aquatic Center
Feather River Hatchery
Clay Pit State Vehicular Recreation Area (SVRA)
Model Aircraft Flying Area
OWA
Dispersed use areas along the upstream and downstream reaches of the Feather River

The project's water conveyance system corridors (canals, pipelines, flumes, penstocks, etc.) is excluded from this analysis. GIS is not a good tool for making decisions about narrow corridors and the public is generally discouraged from such project facilities. SP-R16—Whitewater and River Boating will address whitewater/boating use and potential.

5.0 General Approach

Detailed Methodology and Analysis Procedures

The research team will conduct an analysis of recreation suitability for potential recreation development and dispersed use that balances recreation needs and visitor experience with resource protection and land use/management needs. This study will primarily focus on areas where future development is being considered.

This task will be a GIS-based overlay mapping exercise for the Study Area that will indicate areas of opportunity for public recreation use and development and areas with significant constraints to public recreation development and use. This analysis will focus on the opportunities and constraints described below. The results of this study will be used to provide resource/recreation compatibility information, and will outline possible limitations on potential new recreation development, which may be considered during relicensing, such as new or expanded campgrounds and day use sites on the reservoirs. Tasks to complete this analysis are presented below.

Task 1—GIS Data Layer Review and Identification

Task 1 will review all available GIS data layers and make determinations about which layers to use. A GIS data dictionary and hard copies of California Department of Water Resources (DWR) maps will be reviewed. Desired GIS data layers that do not exist will be discussed. A determination will be made as to which data layers will be created and by whom, which layers will be dropped from consideration and why, and which ones the research team would need to wait for and address at a later date. Opportunities and constraints to potential recreation site development and use will be assessed using the best available GIS data layers contained in DWR's GIS database (see below).

"Opportunities" are areas where environmental conditions are favorable for recreation development or use. Use of existing GIS data layers is assumed at this time. If new GIS data layers are necessary, they will be identified and addressed later through further discussions with DWR.

Minimum Opportunity-Related GIS Data Layers and Polygons to be Included in this Study

Natural Factors

- Relatively flat slopes of 0 to 10 percent.
- Average to favorable soil properties, positively ranked former Soil Conservation Service (SCS) soil class ratings (as available).
- Areas of wind protection, coves.
- Favorable tree canopy, lower density.
- Deep water shoreline bathymetry for shoreline boating access.

Land Use and Management Factors

- Public land (California Departments of Parks and Recreation (DPR), and Fish and Game (DFG)/United States Forest Service (USFS)/Bureau of Land Management (BLM)).
- DWR-owned project lands.
- Land within 1,000 feet of existing roads (increased potential for road and utility access and minimization of new road cuts).

- Proximity to existing campgrounds/day use areas (increased potential for expansion or in-fill of existing facilities).
- Proximity to the shoreline (with ¼ mile visitors desire a shoreline experience).

Constraint-Related GIS Data Layers and Polygons to be Included in this Study (as available):

Natural Factors

- Priority habitat species sites and buffers.
- Unique and sensitive habitats and buffers.
- Sensitive wildlife observation points and buffers.
- Raptor nest sites, critical areas, and buffers.
- High erosion/slope failure areas (slope greater than 20 percent).
- Moderate slope (slope 10 to 20 percent).
- Difficult to extreme SCS soil classes.
- Geologic hazard areas.
- Creeks, streams, and buffers.
- Shallow bathymetry (less than a 5 percent slope), which limits boating/boat access within 500 feet of shore.
- Wetlands and their buffers.
- Riparian deciduous vegetation.
- Riparian mixed conifer/deciduous vegetation.
- Bedrock, rock outcrops and rock talus.
- Hazardous flood zones.
- Boating hazards such as areas typically having a lot of floating debris, areas of exposed stumps, and boulders.

Land Use and Management Features

- DWR Study Area facilities and no public access zones.
- Residential areas.
- Within 1,000 feet of residential areas (buffer zone).
- Butte County Zoning Classes (restrictive), special area boundaries.
- Private land.
- Existing paved roads (roads are costly to relocate).
- Transmission line rights-of-way (ROWs) and buffer.
- Areas greater than ¼ mile from the shoreline (visitor preference is for shoreline).
- Cultural resources (confidential).

Task 2—Analysis of Recreation Opportunities

This task will analyze and identify areas of recreation opportunity that may be considered for future development or dispersed use. Using the GIS data layers and polygons listed under Task 1, "opportunity" polygons will be identified and mapped.

Each of the opportunity variables/polygons listed under Task 1 will be ranked as high, medium, or low opportunities. Once ranked, the GIS data layers will be overlayed. A GIS map showing these three rank categories will be produced. The maps will be reviewed and refined.

The rankings will be revised as needed and the GIS map set rerun to produce a final GIS recreation opportunity map set. Acreage calculations by rank and location will be prepared from the GIS layers.

In this process, two sets of GIS opportunity maps will be produced using different rankings of the various polygons or different polygons: one set will address dispersed undeveloped recreation use areas and one set will address Study Area developed recreation facilities.

Task 3—Analysis of Recreation Constraints

This task will analyze and identify areas of recreation constraint that may be considered for future development or dispersed use. Using the GIS data layers and polygons listed under Task 1, "constraint" polygons will be identified. Constraint mapping will examine and identify appropriate buffering for critical resources including, incompatible land uses; sensitive cover type/critical habitat; stream corridors; steep slopes; erosion hazards, historic and cultural resources, sand dunes, and other constrained areas. Certain ownership values may also be identified as constrained for future suitability.

Each of the constraint variables/polygons listed under Task 1 will be ranked as high, medium, and low constraints. Once ranked, the GIS data layers will be overlayed. A GIS map showing these three rank categories will be produced. The maps will be reviewed and refined. The rankings will be revised as needed and the GIS map set rerun to produce a final GIS recreation constraint map set. Acreage calculations by rank and location will be prepared from the GIS layers.

In this process, two sets of GIS constraints maps will be produced using different rankings of the various polygons or different polygons: one set will address dispersed undeveloped recreation use and one set will address Study Area developed recreation facilities.

Task 4—Analysis of Recreation Composite Suitability

In Task 4, the opportunity and constraints composite data layers and map sets (Study Area dispersed undeveloped areas and developed facilities) will be overlayed and areas of high, medium, and low recreation suitability will be developed and mapped in GIS. Composite recreation suitability maps will be prepared for two uses: Study Area dispersed undeveloped areas and developed facilities.

Highly suitable recreation areas will be those areas where high opportunities and low or no constraints exist, such as where good slopes, forests, and soils for recreation development all occur in the same location. Moderately suitable recreation areas will be identified by relaxing the high opportunity criteria to include areas that provide medium recreation opportunities and low or no recreation constraints. Similarly, low suitable recreation areas will be identified by further relaxing the opportunity criteria to include areas that provide low recreation opportunities and moderate to high constraints.

An "unsuitable" recreation category may be added or could be combined with the low suitable recreation category. Some areas where public recreation use cannot exist, such as existing residential and commercial areas and Study Area facilities, will be excluded from the analysis or could be labeled unsuitable. In addition, there will be two developed facility suitability maps with different stated objectives: one with a more active recreation objective and one with a more resource-oriented/protection objective.

These two map sets will be created by modifying the different rankings of the various polygons or using different polygons in the overlay process. Acreage calculations by rank and location will be prepared from the GIS data layers for both map sets.

Task 5—Draft Final Report Preparation

This task will analyze and summarize the raw mapping results of Tasks 1 through 4 in a report that will include descriptive and summary text, tables, acreage calculations by rank and location, and an 11x17 GIS map set (Attachment B). Topical headings will include:

- Recreation opportunities for dispersed undeveloped recreation and developed facility development.
- Recreation constraints for dispersed undeveloped recreation and developed facility development.
- Recreation suitability for dispersed undeveloped recreation and developed facility development.
- Recreation suitability using a range of development scenarios. The range of scenarios should consider the clustering concept used by the Dangermond Group. For example, one scenario may have a more active recreation objective, another may have a more resource-oriented/protection objective, and another may have a more cultural resources perspective (i.e., Foreman Creek).

6.0 Results and Products/Deliverables

Results

The results of this study will focus on the GIS mapping of recreation opportunities, constraints, and suitability. Suitability acreage totals will be listed and discussed for each area. In addition to the GIS maps, recreation suitability areas and areas suitable for potential future recreation development will be discussed.

Products/Deliverables

The following products will be developed for this study:

- GIS data layer assumptions list
- GIS recreation opportunity map set
- GIS recreation constraint map set
- GIS recreation suitability map set
- Interim Report
- Draft Final Report

Both reports will contain an executive summary; an introduction with goals and objectives; methods; results; and a discussion identifying areas of greatest interest for future recreation development.

7.0 Coordination and Implementation Strategy

Coordination with Other Resource Areas/Studies

The availability of various GIS data layers from DWR and others on the relicensing team will need to be coordinated. Coordination will also have to occur with the various resource studies (e.g., botanical mapping, Threatened and Endangered Species (TES) mapping, water quality study) that are being led by the Environmental Work Group. There will also have to be coordination with the studies led by the Land Use, Land Management, Aesthetics, and Cultural Resources Work Groups.

Issues, Concerns, Comments Tracking and/or Regulatory Compliance Requirements

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current and future demand. It specifically addresses Issues RE 1, 2, 5-39, 53, 55, 56, 60, 61, 64-83, 85, 95, 96, 104 105, 118-130, 132-145, 147, 150, and 151.

8.0 Study Schedule

Data collection: April through August 2003.
Data analysis and report writing: September through October 2003.
Interim Report due: August 2003.
Draft Final Report due: November 2003.

Attachment A
Existing Information Sources

1. Economic Renewal Plan for the Greater Oroville Area. Prepared by the Lake Oroville Recreation Authority, and approved in concept by the Joint Powers Authority (JPA).
2. Lake Oroville Master Plan Framework, Lake Oroville JPA, prepared by The Dangermond Group, 2001
3. Trails Committee Report, Lake Oroville JPA, prepared by The Dangermond Group, 2001.

Attachment B
Sample Suitability Map